



THE UNIVERSITY *of* EDINBURGH

Edinburgh Research Explorer

'That's given me a bit more hope' – adolescent girls' experiences of Forest School

Citation for published version:

Manner, J, Doi, L & Laird, Y 2020, "That's given me a bit more hope' – adolescent girls' experiences of Forest School", *Children's Geographies*. <https://doi.org/10.1080/14733285.2020.1811955>

Digital Object Identifier (DOI):

[10.1080/14733285.2020.1811955](https://doi.org/10.1080/14733285.2020.1811955)

Link:

[Link to publication record in Edinburgh Research Explorer](#)

Document Version:

Publisher's PDF, also known as Version of record

Published In:

Children's Geographies

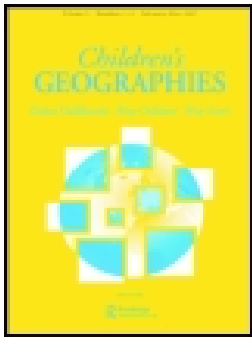
General rights

Copyright for the publications made accessible via the Edinburgh Research Explorer is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy

The University of Edinburgh has made every reasonable effort to ensure that Edinburgh Research Explorer content complies with UK legislation. If you believe that the public display of this file breaches copyright please contact openaccess@ed.ac.uk providing details, and we will remove access to the work immediately and investigate your claim.





'That's given me a bit more hope' – adolescent girls' experiences of Forest School

Jillian Manner , Lawrence Doi & Yvonne Laird

To cite this article: Jillian Manner , Lawrence Doi & Yvonne Laird (2020): 'That's given me a bit more hope' – adolescent girls' experiences of Forest School, Children's Geographies, DOI: [10.1080/14733285.2020.1811955](https://doi.org/10.1080/14733285.2020.1811955)

To link to this article: <https://doi.org/10.1080/14733285.2020.1811955>



© 2020 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group



Published online: 26 Aug 2020.



Submit your article to this journal [↗](#)



Article views: 80



View related articles [↗](#)



View Crossmark data [↗](#)

'That's given me a bit more hope' – adolescent girls' experiences of Forest School

Jillian Manner ^a, Lawrence Doi ^a and Yvonne Laird ^b

^aScottish Collaboration for Public Health Research and Policy (SCPHRP), School of Health in Social Science, The University of Edinburgh, Edinburgh, UK; ^bSchool of Public Health, Prevention Research Collaboration, Charles Perkins Centre, The University of Sydney, Sydney, Australia

ABSTRACT

Forest School is an outdoor learning program aimed at improving wellbeing and resilience. Few studies discuss Forest School experiences from the viewpoint of adolescent girls, particularly those with mental health risk factors. The study's aim was to explore the experiences of adolescent girls involved in a Forest School program in Scotland. An interpretive approach, using qualitative interviews captured the experiences of eight girls, who were considered at risk for mental health problems, participating in a Forest School program in rural Scotland. Data were analysed using thematic analysis, which facilitated understanding the complexity of meaning participants attached to their experiences. Four main themes were identified from interviews; mental wellbeing and resilience, community and social interaction, learning, and perception of Forest School. Most participants felt the program positively affected their mood, confidence, social skills and relationships, which went beyond the Forest School setting.

ARTICLE HISTORY

Received 29 October 2019
Accepted 10 August 2020

KEYWORDS

Youth development; nature; adolescent mental health; outdoor education; Forest School

Introduction

Adolescent girls' development is fraught with risks and barriers including internalizing problems, anti-social behavior and a higher likelihood of depression and anxiety disorders, some of which can be tied to societal and gender specific barriers (Abrams 2002; Bor et al. 2014). Adolescent-onset depression is associated with adverse outcomes in adult life such as drug abuse, academic difficulties, unemployment, and early parenthood (Fergusson and Woodward 2002), which highlights the importance of preserving the wellbeing of young girls. In Scotland, services such as Child and Adolescent Mental Health Services (CAMHS), and the Scottish school nursing program provide mental health services and support to children and adolescents, however these services are under pressure due to high demand (NHS Education for Scotland 2018; Doi et al. 2018).

The benefits of outdoor learning

Outdoor learning provides children with an opportunity to be physically active, while learning and developing a relationship with the natural world (McCree and Cree 2017). There is evidence that nature can have a positive impact on mood, coping skills and personal development through experiences that restore psychological resources and promote cognitive development (Roe and Aspinall

CONTACT Jillian Manner  Jillian.Manner@ed.ac.uk

© 2020 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group
This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

2011a; Mainella, Agate, and Clark 2011; Tillmann et al. 2018) and that outdoor activities can be used to promote wellbeing (Ewert, McCormick, and Voight 2001; Russell and Gillis 2017). Outdoor-based learning programs may provide a mechanism in which to generate this impact in youth and serve as a protective intervention (Mainella, Agate, and Clark 2011; O'Brien 2009; O'Brien and Murray 2007; Slade, Lowery, and Bland 2013) while providing a unique learning environment for children, which can complement traditional classroom learning (Harris 2018; Pimlott-Wilson and Coates 2019).

Adolescent girls may be more resistant to certain mixed gender physical activities due to self-consciousness, feeling less safe and supported, increased competitiveness, compulsory heterosexuality and pressure to conform (Whittington et al. 2011). All-girls programs provide a space for this population to focus on learning and personal growth rather than being clouded by thoughts and emotions tied to these negative factors (Whittington et al. 2011). They can improve physical skill development (Felton et al. 2005), increase physical activity participation (Gehring 2005), improve self-esteem and body image (Arnold 1994; Mitten 1992), and provide a safe, comfortable, stereotype-free space where girls can connect with each other (Whittington et al. 2011).

Forest school

Forest School is a child-centered outdoor learning program that offers hands-on experiences in a woodland or natural environment, aimed at developing outdoor skills, confidence, resilience, independence and other important skills in children. The program was introduced in the UK in the 1990s and is based on outdoor play-based learning that originated in Scandinavian countries (Maynard 2008). In the UK, a charitable professional body called the Forest School Association (FSA) promotes Forest School best practice through collecting and disseminating information, including academic research. The FSA develop and maintain the curriculum for Forest School Leader qualifications, which were placed on the UK's Regulated Qualifications Framework in 2018 (Forest School Association 2018).

Forest School can contribute to overall social, cognitive, emotional and physical development in children (Coates and Pimlott-Wilson 2019) through nature and activities that promote attention and stress relief (Roe and Aspinall 2011b). Studies of young children have shown improvements in characteristics such as self-esteem, confidence and communication skills (O'Brien and Murray 2007; Coates and Pimlott-Wilson 2019), leading to additional positive outcomes such as improved social interaction, motivation and concentration (Slade, Lowery, and Bland 2013). These factors are tied to mental health and wellbeing in girls, and as such, improvements in these areas can help to overcome challenges associated with female growth and development (Abrams 2002; Bor et al. 2014) and combat internalizing symptoms, which are increasing in young women (Bor et al. 2014). For example, a Forest School study by Roe and Aspinall (2011b) found positive changes in mood in adolescent participants (both boys and girls). Forest School also provides a more democratic and inclusive education platform, which is better suited for students with social and emotional needs (Kraftl 2018).

Research has evaluated the impact and outcomes of Forest School programs. Qualitative studies have predominantly gathered data from parents, Forest School leaders and other stakeholders (O'Brien and Murray 2007; Slade, Lowery, and Bland 2013; Harris 2018), or from young children (Ridgers, Knowles, and Sayers 2012; Coates and Pimlott-Wilson 2019; Pimlott-Wilson and Coates 2019). A study by Roe and Aspinall (2011b) looked at adolescents, however questionnaire data was used and the focus was on behavioral outcomes rather than wellbeing, which may have provided a broader case for the benefits of the program. Whilst these studies have demonstrated promising impacts on mood, behavior and social skills, they do not always gather the participant perspective, and if they have it has only been in younger, mixed gender groups. Few studies investigate the experiences of all-girls Forest School participants from their own perspective, especially those with mental health risk factors.

Despite the obvious benefits of Forest School, these programs are often independent of the school system, which presents two major issues. First, they are likely based on external funding, and as such are not sustainable for long periods of time and for large cohorts of students. Second, Berman and Davis-Berman (2005) suggested that outdoor education, such as Forest School, could increase anxiety by pushing children out of their comfort zone. Moreover, sessions may run during class time, and if not aligned to the school curriculum, could become a missed opportunity for learning enhancement (Slade, Lowery, and Bland 2013). However, Forest School has the potential to enrich the curriculum if used to meet specific skill criteria, which allows for learning that is based in, and can be applied to, the real world (Waite 2017).

In rural Scotland, a not-for-profit organization is involved in providing Forest School programs for children and adolescents. The Forest School program, led by qualified Forest School Leaders, runs free weekly sessions with primary and secondary school students, ranging from age 4–13 years, and involves twelve-week blocks in local parks. Referrals are brought forward by teachers or parents/carers because students are having trouble at home or school and have been diagnosed with, or are perceived by teachers or parents/carers to be at risk of, mental health concerns such as depression, anxiety, low self-esteem, and/or behavioral problems. For example, some participants were getting into frequent physical fights or verbal arguments with other students. The school asks participants if they would like to take part in the program and then sends a letter to the parents/carers for their permission. The program can accommodate up to 12 participants per group, with four leaders, and takes place in a local woodland area, nearby but out of sight of the school, which the participants attend.

This study explores the experiences of adolescent girls who have, or are at risk of, mental health and behavioral problems, taking part in an all-girls Forest School program. The aim of the study was to explore their experiences and to understand the perceived impact the program had on their well-being, resilience and sense of community. For the purpose of this study, wellbeing was considered to be overall physical, mental, and social wellbeing, which aligns with the World Health Organization's definition of health (World Health Organization 1946). Resilience was considered to be the ability to cope in the face of adversity (Luthar, Cicchetti, and Becker 2000). For participants, this involved factors such as difficult home environments and bullying. Sense of community was considered to be emotional safety, a sense of belonging and mutual benefit (McMillan 1996). The Forest School program aims to foster a sense of community, supporting participants to improve social skills, develop emotional intelligence and increase confidence and self-esteem.

Methods

In-depth individual interviews were selected to allow girls to share their experiences and insights. It was important that these were done away from their peers to ensure the girls felt comfortable freely expressing their thoughts and feelings. An interpretivist thematic analysis approach was used to develop a rich understanding of the meaning adolescent girls attach to their experiences of Forest School (Boyatzis 1998). Interpretivism is the view that reality, truth and knowledge is subjective, impacted by culture and history and based on individual experiences and interpretations, which may allow for better meaning in human interactions to be captured (Black 2006; Ryan 2018). As our goal was to understand the perspective and experiences of each girl, an interpretivist approach with in-depth semi-structured individual interviews provided a way of capturing their complex and contextual experiences.

Ethical approval for the research was granted by the University of Edinburgh's Usher Institute Research Ethics Committee and complied with research governance procedures within the study site. Study procedures were designed and agreed in conjunction with the Forest School staff.

Setting

This study was conducted in a rural region of Scotland. The area is relatively homogeneous; most identify as white British, while a small percentage identify as white other, white Irish, white Polish,

Table 1. The organization's Forest School program model.

Program item	Description
Population	<ul style="list-style-type: none"> • Provided to a single-sex group, as they may be more comfortable, in terms of being able to talk openly.
Program description	<ul style="list-style-type: none"> • Based on the Forest School ethos, which focusses on improving overall mental and physical wellbeing, building self-esteem and resilience through child centered learning in a woodland setting (O'Brien 2009). • Aims to provide a safe space to build and strengthen relationships with other participants, while developing emotional intelligence and communication skills through participation in nature based activities.
Program delivery	<ul style="list-style-type: none"> • The team who deliver the program are all qualified Forest School leaders with experience of delivering a wide range of outdoor programs. • Forest School sessions are approximately 3 hours in duration and held during school time.
Session outline	<ul style="list-style-type: none"> • Each session begins with a discussion of everyone's feelings. • Participants then assist in setting up the site, followed by a choice of outdoor activities such as crafts, games, making a fire and food preparation. • The group has a hot drink and food around the fire, and a discussion of the highs and lows of the session before packing up and going back to school.

Asian, and other (Scottish Government 2011). Participants attended a non-specialised, mixed gender secondary school in this area, and some participants knew each other beforehand.

Table 1 provides an overview of the organization's Forest School program model.

Sample and procedure

Participants were recruited from an all-girls Forest School program, delivered to girls aged 12–13 years in one secondary school in rural Scotland. All nine participants who took part in the Forest School program were invited to participate in the study during an information session facilitated by the organization's staff and one of the researchers, at which point information sheets and consent forms were provided. Of the nine girls invited, eight agreed to take part by returning completed consent forms, which were also signed by a parent or guardian. The participants were taking part in their second twelve-week block of Forest School during autumn of 2017, which was the second round of sessions the organization was funded for and able to offer. The girls had a broad range of difficulties, such as anxiety, depression and low self-esteem. Many came from challenging home environments and some experienced bullying. These difficulties and challenges were noted by Forest School leaders, however the researchers were unable to confirm any official medical diagnoses.

Semi-structured one-to-one interviews with the girls were conducted by the first author, who attended Forest School sessions from the beginning of the block in September 2017 until completion of data collection, in order to build rapport with participants and aid in recruitment. Interviews took place in the Forest School, away from the group, but in sight of group leaders. They were carried out across the weekly sessions (1–2 per session), from September 27 to November 1 2017, each lasting 20–35 minutes. Interviews were recorded using an audio recorder. Participants were asked a series of open-ended questions from a topic guide, developed for the purpose of this study. The topic guide was written with the Forest School leaders to understand if the program had the intended impact on fostering wellbeing, resilience, and community in participants, as well as promoting emotional intelligence and encouraging healthy lifestyles. Based on these goals, a topic guide was developed collaboratively, which included program activities, feelings towards the program, achievements and learning, resilience, as well as community and social skills (see Table 2).

Data analysis

Interviews were transcribed verbatim. The data were analysed through thematic analysis using a hybrid approach of inductive and deductive coding and theme generation, as outlined by Fereday

Table 2. Interview topic guide example questions.

Topic	Example Question
The Forest School program	<ul style="list-style-type: none"> What has been your favorite part of the program?
How the program makes you feel	<ul style="list-style-type: none"> How do your feelings while here, participating in Forest School, differ from your feelings in other spaces or places?
Achievements in the program	<ul style="list-style-type: none"> What do you think is your greatest achievement here?
Resilience	<ul style="list-style-type: none"> Was there a time when you surprised yourself during the program? Perhaps did something you didn't think you could do?
Community	<ul style="list-style-type: none"> Has the program changed how you make friends and the way you talk to other people?

and Muir-Cochrane (2006), while taking into account overarching constructs of the Forest School program (wellbeing, resilience and community). After transcripts were read over thoroughly, a codebook was generated by two researchers, which was used to identify codeable sections in all eight transcripts using NVivo 11 data analysis software (QSR International). Several codes, both inductive and deductive, were identified and applied independently across all the transcripts by two of the researchers. Any discrepancies were resolved through discussion by all authors. Further, similar codes were grouped to form overarching themes. The analysis proceeded to the interpretive phase during which units of the data were compared and contrasted before patterns of meaning and understanding were identified.

Results and discussion

In order to protect the anonymity of participants, pseudonyms are used throughout.

Themes

Descriptions of each theme can be found in Table 3.

Mental wellbeing and resilience

We explored the impact Forest School had on mental wellbeing and resilience among participants by asking questions about their experiences in the program, how it made them feel and act, and how they overcame personal challenges during and after sessions. It was apparent that Forest School provided a space where participants could work through their feelings and personal problems by enabling them to better understand and cope with their emotions, improve confidence levels, and resolve conflicts within the group and in their personal lives with the support of the Forest School leaders.

Table 3. Themes and their description.

Theme	Description
Mental wellbeing and resilience	<ul style="list-style-type: none"> Mood and how emotions are handled. Dealing with personal struggle and conflict with others. Improved confidence both during and outside of Forest School sessions.
Community and social interaction	<ul style="list-style-type: none"> Participation and engagement in certain activities. Social skills and relationships with others.
Learning	<ul style="list-style-type: none"> Acquiring tangible and non-tangible skills.
Perception of Forest School	<ul style="list-style-type: none"> Ideas about what Forest School does for participants. Favorite and least favorite aspects of Forest School. Suggestions for program improvement.

Overall, participants experienced positive changes in their mood, and described feeling calmer and happier both during and out with Forest School sessions. This adds to the results of a study by Roe and Aspinall (2011b) who found that participants of similar age (an average of 11 years) who attended Forest School had greater positive changes in mood compared to children who did not attend, and that participants with poor behavior benefitted the most. One important aim of the Forest School program was to enable the development of emotional intelligence through open discussions about, and analysis of, feelings and emotions throughout the sessions. It was clear that this was achieved as the participants noted that the program enabled them to understand, express, control and cope with their feelings better. Several participants noted they no longer felt they had to control or escape their emotions and that it was okay to have and express them.

... Forest Schools has been helping it a lot. Like before I started coming I was actually going to get home schooled because I couldn't deal with the stress in school and because I kept on getting into fights. Actually, about three days before Forest Schools started I got into a really big fight with a boy and I ended up having to get sent home and that because I got really angry and stressed and I had like a breakdown, but Forest Schools has been able to help me calm down and stuff and control my anger and emotions. (Sasha)

Participants were able to talk to and gain help from leaders about how to deal with conflict. Many of the girls mentioned they got along better with friends and classmates and in turn got involved in less verbal and physical arguments. Some perceived that this was due to being in a better mood to handle conflict in addition to improved communication skills from attending Forest School sessions. A few mentioned that Forest School leaders were able to assist in resolving the occasional conflict within the group. Most described Forest School as a place that made them feel calm and where they could have a break from the stresses of school and home.

With them, the leaders, they'll make you feel good about yourself, they'll actually be like, you can do this, they'll talk to you if you have problems and that's given me a bit more hope, and then all the girls are also being kind and stuff. At the start we were all mean to each other, we were getting into fights every week and they'd carry on into school, but now we're not fighting as much and I'm guessing that's getting me a bit more confidence because I was used to getting into fights. Because before I came I started to get into fights at least once a week and I'd always get sent to my guidance teacher and stuff because I was punching people. And that's calmed down a lot, I've got into like two fights since. (Sasha)

Most participants stated that attending Forest School sessions boosted their confidence within and outside of sessions. Improved confidence was also seen in other studies of children participating in Forest School (O'Brien 2009; O'Brien and Murray 2007; Slade, Lowery, and Bland 2013), particularly those with special emotional needs (Slade, Lowery, and Bland 2013). Our findings build on this evidence by showcasing the ability of participants to examine these changes in themselves by describing why they thought their confidence improved and how it changed their daily lives. Many stated they were able to talk to others more, allowing them to strengthen existing relationships and make new friends. Some said these changes were what they were most proud of as a result of attending Forest School. Participants stated they were more social as a result of being calmer, happier and more confident. When asked what made her think she was more confident, Annie had the following to say:

Like [I am] more confident to speak to people and then more confident in doing shows, and more confident to be around more people.

Improvements in confidence and social skills helped some to enjoy school better. One participant described having greater confidence in talking to others, which helped her fend off bullies at school and worry less about others' perceptions of her:

I can talk to those people, and tell them, I don't really care what you say, but before I would be like, okay, and walk off and I'd be upset, and realise that I'm no good to anybody, no one agrees with me. ... I hated telling people about things, because I always know that I'd get judged, or people would make fun of me and things; and now [after participating in Forest School] I just don't care what other people think. (Lynn)

Additionally, some participants said that even friends, family and the pastoral teacher had noticed positive changes in their behavior, mood, confidence and social skills.

... before the program I was pretty like self-centred but now I'm kind of like ... Well, my mum sometimes tells me that I have been acting more, this will sound bad, but I've been acting more caring ... But, like, she's been saying that I've been more improved in my behaviour as well. (Annie)

Community and social interaction

Alongside improvements in confidence and emotional regulation, participants noted improvements in social skills, emotional intelligence and relationships with family and friends as well as an increased sense of engagement with their communities (including Forest School) and decreased screen time. This supports Forest School research by Slade, Lowery, and Bland (2013), which found that participants had higher levels of confidence and social interaction, through drawing other participants into their activities and the natural formation of groups within the forest context. Case studies in England and Wales also found that Forest School fostered the development of communication skills, increased awareness of others and improved an individual's ability to work co-operatively with others (O'Brien and Murray 2007).

All participants felt included and that their voices were heard in Forest School sessions. Some mentioned engaging in additional non-nature based extracurricular activities as a result of increased support they received from Forest School leaders.

It feels really nice because in school I sometimes get left out because I haven't got any friends and stuff but it feels really nice to be included. Sometimes [at Forest School] I do push my friends away but they always include me no matter what, like even if I want to be left alone they'll always be like, yo, do you want to come over, we don't want to leave you by yourself, stuff like that. (Sasha)

Participants felt that their relationships with others within and outside of sessions had improved. This was something the leaders were trying to achieve, aligning with the Forest School ethos which aims to enable participants to extend their social skills and become better communicators. Most participants discussed how the program allowed them to strengthen relationships with friends and family through the habits and skills they learned during sessions, which provided them with the confidence and desire to spend additional time meeting with, socializing with and assisting with chores or tasks for friends and family members. These behavior changes were often cited as the main driver of this shift in relationship status. Once again, the participants' ability to examine changes to their feelings and behavior provides an important addition to existing evidence around the impact of Forest School.

... before [Forest School] I wouldn't tidy up behind myself and now I do. I wouldn't like pay attention to my parents but now I do. (Annie)

When asked why she thought her relationships outside the program had changed for the better, Audrey said the following:

Audrey: Helping more at home ... making dinner.
 Interviewer: Okay. So you are helping make dinner every night now?
 Audrey: Yeah
 Interviewer: And were you helping make dinner before at all?
 Audrey: No I would just wait until dinner was ready.

In addition to strengthening existing relationships, participants stated they were able to socialize more and make new friends within and outside of sessions. A few participants also mentioned that they now experience less verbal and physical conflicts within and outside of Forest School due to increased confidence and improved social skills.

Klaudia outlined how Forest School helped improve her relationship with her mother:

I think it's more confidence and makes me a little bit happier; and now it's like since I've got confidence I can actually speak to my mum about stuff, like stuff that I don't usually speak to her about.

Participants described how they had reduced their screen time and social media usage, specifically with regards to mobile phones and tablets, which allowed them to interact more with friends and family. The girls were discouraged from engaging with screens during sessions, and expressed a realization of the value of social interaction and some of the downsides of excessive screen use.

- Klaudia: I am off my phone a lot [since attending Forest School], I more go outside and hang around with friends, instead of just sitting on my phone the whole day, because I used to just sit on SnapChat or something.
- Interviewer: How do you feel about not using your phone as much?
- Klaudia: I'm not really bothered about it anymore, because I used to, like, every time when I was in class and stuff like that I was always on my phone, but now it's like ... because the Forest School has made me feel better, I'm more confident so don't sit on my phone and, I don't know, just chill.

Participants also mentioned they were better at helping and understanding the needs of others at home and elsewhere. A few described themselves as being more patient as a result of attending Forest School. This increased awareness of the needs of others, alongside improved emotional intelligence, contributed significantly to improving relationships.

I talk to my parents a lot more than what I did, because it used to just be arguing, but now Wednesdays (Forest School day) usually when I come home, that's when I'm most calmer and I'll sit in the living room and talk to my parents about how my day's been. So, since I've started coming here, I do talk more to my parents than I did, and my younger sister, I have more patience with her. (Pippa)

Learning

Forest School provides a unique environment where learning is gained through self-directed activities in nature, play, and collaboration, and allows for a broad range of activities that the traditional classroom cannot offer. When asked about what they had learned in the program, some mentioned they had learned more about themselves. One girl said she learned she was more creative than she thought. Another mentioned she learned that she liked to try new things.

I've learnt that I'm ... I already knew that I was really creative but I've been able to express myself and that's actually helped me because I've been able to express myself through cooking or the wood cookie and stuff like that and making things out of leaves. Like we've made roses and stuff out of leaves, I've been able to create stuff like that. (Sasha)

Many mentioned learning specific outdoor skills, like making a fire, outdoor cooking and crafts. They described learning these skills for the first time and having an increased confidence and proficiency in participating in activities such as using a knife, cooking and taking care of the forest.

When asked what she learned from being in the program, Lynn had the following to say:

Being happy I guess, 'cause when I'm home, I'm stressed out, I'm upset, I go up to me bed, crying my eyes out 'cause I think no one likes me. But here I'll go home, and I've made friends, I've learned how to cook this, I can do this, that, and then I don't know, with the trees, I know I can make a lot of things for my pets, so it makes me happy, because my pets are everything to me.

Given the unique learning experiences and skill development that Forest School offers, it is possible that this type of program could be used to complement and enhance children's experiences of traditional school (Coates and Pimlott-Wilson 2019; Pimlott-Wilson and Coates 2019), and provide a beneficial contrast to formal teaching, which removes the academic pressures to meet curriculum targets for both students and teachers (Harris 2018), and provides a more democratic learning environment (Kraftl 2018).

Perception of Forest School

Participants had varying perceptions of what Forest School did for them, but all felt positively about the sessions, and the majority felt they were better than expected, noting many favorite elements with few suggestions for improvement.

Forest School was seen as a calm, quiet place to talk about feelings, and a number of participants described it as an escape from the stresses of school. One participant described Forest School as a space where she could be a child again:

I love coming here, it's a really good not escape from school but small break from school because I always find it hard in school because of my anxiety and my social skills and because I don't really get on with kids my age because I've grown up a lot quicker than most of them. And this is a little escape for me to actually be that little kid again because I grew up a lot quicker when I was younger so that's stopped me from being a kid and running outside and stuff, and this just lets me forget my problems that I have and just run around and be seven years old again. (Sasha)

Most felt nervous and uncomfortable prior to starting Forest School for the first time, however this changed after the sessions began. Participants also viewed the program as a way to make friends and help with their mood and behavior. Lynn had the following to say about the time she'd spent in Forest School:

Happy, I guess, and glad that I've been here. 'Cause then I would be, not the same, I don't know how to explain it, like, if I wasn't here I would be the same, shy person, that didn't know what to do. But now that I've come here, I'm excited to come here.

All participants thought having sessions outdoors was beneficial, and felt better and more free being outside the classroom, where activities were more limited and structured. A study by Tillmann et al. (2018) found that children perceive emotional advantages of simply being in nature. This aligns with participant perceptions of the current study of positive changes in mood and behavior, such as being calmer and happier with reduced feelings and actions of aggression, as a result of both the program and the outdoor setting. Klaudia had the following to say about the program being outdoors:

Well, indoors I usually sit and watch the TV, more like social media and stuff like that; and outside I can meet new places, see the forest a little bit more; and now I know what branches can fall off and stuff like that, so I know a little bit more about the nature.

When asked to describe their favorite parts of the program, most participants said they enjoyed all aspects. Others mentioned specific activities, like cooking, making a fire and setting up camp, making crafts, hanging in hammocks, and playing outside. For a few, their favorite part revolved around the social aspects of the sessions; strengthening existing friendships and making new ones, socializing with program leaders and discussing their feelings. Others enjoyed having the freedom to be creative. A handful of participants mentioned they liked attending Forest School because it gave them a break from school, which many identified as stressful.

When asked what their favorite part of the program was, Kathleen had the following to say:

Having the help I need, and making new friends, and kind of just being myself and things, and not have to worry about what people think.

The girls found it difficult to articulate what they least liked about the program. A few mentioned they disliked when the sessions ended. One participant mentioned having to stand still for activities, and another explained that it was difficult to discuss her feelings with the group. A few participants also mentioned arguments between group members, however most participants highlighted that these occasional instances had reduced since the beginning of the program. On the rare occasion that an argument occurred, the leaders helped to resolve them and used these instances as learning opportunities for handling such situations in future.

When asked their opinions on the program itself, participants were generally more positive than negative. Recommendations for improvement were mainly in relation to lengthening the sessions,

because they preferred the sessions to their school classes, and adding more group activities. This reflects how enjoyable the program was for the girls involved, but also opens the debate about time commitment of Forest School and the impact this may have on the academic work of school children. Studies on outdoor learning have identified a number of barriers including curriculum requirements as well as constraints on time, resources and support (Rickinson et al. 2004). Due to these barriers, it may be difficult to convince schools and organizations to direct limited time and resources towards outdoor learning (Waite et al. 2015). However, mental health issues could affect young people's school performance and it is important that they are addressed (Dyment 2005). This study has outlined some positive outcomes from Forest School through the eyes of participants, which could help change negative perceptions of Forest School that may be held by members of schools and other organizations, and parents.

There are numerous pathways through which Forest School can have beneficial impacts, some of which are similar to that of Adventure Therapy (Russell and Gillis 2017), and other outdoor youth development programs (Mainella, Agate, and Clark 2011). Whilst specific features of the Forest School program are likely to have brought about the positive changes the girls identified, the Forest School setting was a critical factor for the success of the intervention. The positive benefits of being in nature, which were identified earlier in this paper, are amplified with Forest School activities, which foster interpersonal and intrapersonal outcomes in supporting participants to improve their social skills, develop emotional intelligence and increase confidence and self-esteem. Participants are encouraged to be reflective throughout the session and are challenged through various outdoor activities.

The results of this study outline what a significant impact Forest School can have on mental health and wellbeing, and aid in the development of many important lifelong skills in adolescent girls. Most participants felt they had improved their social skills, and noted this led to improved relationships with friends and family, and helped to forge new relationships with those around them. Significant improvements in confidence were discussed, which fostered positive outcomes in their daily lives. The outcome of the program's effort to build resilience was evident in participants' discussions of being able to handle stress, daily struggles, and conflict better due to improved mood and having an increased understanding of their own and others' feelings. Similar improvements in resilience were found in another Scottish study by McArdle, Harrison, and Harrison (2013), which looked at a 10-week outdoor education program for children aged 4–5 years from challenging backgrounds such as homes with drug addiction and domestic abuse. The researchers noted improvements in areas such as social communication, emotional stability, focus, empathy and ability to cope with challenges, and believed this was due to the impact of being outdoors, the nurturing nature of the program, risk taking and being able to play openly (McArdle, Harrison, and Harrison 2013). Additionally, the positive changes in this study and the current study were seen in a short span of time (less than a year) as the girls were finishing off their second twelve-week block (with summer holidays between the two). This shows the impressive speed at which such formative changes can occur as a result of this type of program.

Strengths and limitations

Previous studies on the impact of Forest School have primarily focused on parents, teachers and other stakeholders. Few studies involved female only adolescent Forest School programs and collected data directly from participants. The strength of the current study is that it collected rich insights on girls' experiences of Forest School, and is one of the first qualitative studies to look at the experiences of Forest School participants in this age group and gender. The semi-structured individual interviews that were conducted with the participants gave them the opportunity to reflect on their own experiences and begin to interpret changes to their mental health and behavior, which allowed for more inductive theme generation and more defined outcomes. This participant self-

reflection provides a different perspective and further supports findings from previous studies, allowing us to better understand the impact of Forest School.

Due to the size of the Forest School program, we were only able to recruit eight participants in the study. Having more participants could have generated additional data and might have strengthened the study findings. However there were still substantial insights gained across all eight interviews. Also, interviews with other key individuals such as parents, friends, teachers, and Forest School staff could have provided data to corroborate our findings.

Although the researcher made an attempt to attend sessions prior to interviews and build rapport with the participants, it is still possible that some may have held back during interviews, especially when discussing sensitive topics. There is also risk of response bias, as participants may have answered questions in a way in which they thought the researcher wanted (Furnham 1986). As the results are situated within the girls' understanding and experiences of Forest School, there might be aspects of the intervention that they did not articulate, but possibly created changes. Due to ethical considerations and the self-report nature of the data collection, the researchers were unable to ascertain participant's mental health diagnoses or other personal challenges. Additionally, to the researcher's knowledge, based on participant interviews and informal conversations with the Forest School leaders, the girls were not receiving any other support for mental health difficulties or other challenges, which could have contributed to the changes they reported. However, it is possible that other activities which were not mentioned also contributed to their development during the program. It is also possible that such programs could have adverse effects or unintended consequences due to perceived risk of program activities by participants (Berman and Davis-Berman 2005). However, no such adverse effects were noted by participants during the interview process.

Future research

Most of the previous research on Forest School has been with children, or used observational or survey data collection methods. It is important to continue research with female adolescents and using larger samples to understand the impact of Forest School on mental health and school performance, and other aspects of daily life. Future research should identify the mechanisms in which Forest School impacts on participants' views and behavior, including specific factors relating to being involved in an all-girls program. Longitudinal studies would also be beneficial in order to understand the long-term impact of the program and if the skills developed are maintained and perhaps built upon as participants age. Additionally, a deeper understanding of how this program can intersect and compliment more formal education is needed (Pimlott-Wilson and Coates 2019).

Conclusion

This study provided insight into young girls' experiences of a Forest School program that seeks to improve well-being, resilience and sense of community in its' participants. A number of topics were discussed, revealing perceptions and opinions of the program's impact from the viewpoint of the participants themselves, who largely spoke positively about the Forest School program. Overall, the program fostered positive changes in mood, social skills, confidence and relationships which supported the development of resilience, and helped them to begin to overcome their unique personal challenges. These skills may serve as a protective mechanism for their continued development and help to negotiate adult life. The study adds to the existing literature on Forest School, with results showing that the program exceeded its' desired outcomes, and provides a compelling case for continuing the program.

This paper contributes to the growing evidence on Forest School and outdoor learning as a method for supporting wellbeing and developing resilience in teenage girls who are at risk of developing mental health problems. The findings from the study help to demonstrate the value of Forest School programs in potentially reducing the mental health burden in the teenage population and

serve as an early intervention strategy. Such interventions hold significant potential to ameliorate the wellbeing of young people, at a formative and impressionable age.

Acknowledgement

We would like to acknowledge the Forest School organization's staff for their support. We would also like to offer a special thank you to the participants for taking part.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

No specific grant was received for this work. During the study the Scottish Collaboration for Public Health Research and Policy was funded by the Medical Research Council (MR/KO 023209/1) and the Chief Scientist Office. The views expressed in this publication are those of the authors and not necessarily those of the funders. The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

ORCID

Jillian Manner  <http://orcid.org/0000-0003-4411-5056>

Lawrence Doi  <http://orcid.org/0000-0001-6853-5050>

Yvonne Laird  <http://orcid.org/0000-0001-9447-3439>

References

- Abrams, L. S. 2002. "Rethinking Girls "At-Risk"." *Journal of Human Behavior in the Social Environment* 6 (2): 47–64. doi:10.1300/J137v06n02_04.
- Arnold, S. C. 1994. "Transforming Body Image Through Women's Wilderness Experiences." *Women & Therapy* 15 (3–4): 43–54. doi:10.1300/J015v15n03_05.
- Berman, D. S., and J. Davis-Berman. 2005. "Positive Psychology and Outdoor Education." *Journal of Experiential Education*, 17–24. doi:10.1177/105382590502800104.
- Black, I. 2006. "The Presentation of Interpretivist Research." *Qualitative Market Research: An International Journal* 9 (4): 319–324. doi:10.1108/13522750610689069.
- Bor, W., A. J. Dean, J. Najman, and R. Hayatbakhsh. 2014. "Are Child and Adolescent Mental Health Problems Increasing in the 21st Century? A Systematic Review." *Australian & New Zealand Journal of Psychiatry*, 606–616. doi:10.1177/0004867414533834.
- Boyatzis, R. E. 1998. *Transforming Qualitative Information: Thematic Analysis and Code Development*. Thousand Oaks, CA: Sage.
- Coates, J. K., and H. Pimlott-Wilson. 2019. "Learning While Playing: Children's Forest School Experiences in the UK." *British Educational Research Journal* 45 (1): 21–40. doi:10.1002/berj.3491.
- Doi, L., D. Wason, S. Malden, and R. Jepson. 2018. "Supporting the Health and Well-being of School-Aged Children Through a School Nurse Programme: A Realist Evaluation." *BMC Health Services Research* 18 (1): 664. doi:10.1186/s12913-018-3480-4.
- Dymont, J. E. 2005. "Green School Grounds as Sites for Outdoor Learning: Barriers and Opportunities." *International Research in Geographical & Environmental Education*, 28–45. doi:10.1080/09500790508668328.
- Ewert, A., B. McCormick, and A. Voight. 2001. "Outdoor Experiential Therapies: Implications for TR Practice." *Therapeutic Recreation Journal* 35 (2): 107–122. <https://search.proquest.com/docview/218635048?accountid=10673>.
- Felton, G., R. Saunders, D. Ward, R. Dishman, M. Dowda, and R. Pate. 2005. "Promoting Physical Activity in Girls: A Case Study of one School's Success." *Journal of School Health* 75 (2): 57–62. doi:10.1111/j.1746-1561.2005.tb00011.x.
- Fereday, J., and E. Muir-Cochrane. 2006. "Demonstrating Rigor Using Thematic Analysis: A Hybrid Approach of Inductive and Deductive Coding and Theme Development." *International Journal of Qualitative Methods* 5 (1): 80–92. doi:10.1177/160940690600500107.

- Fergusson, D. M., and L. J. Woodward. 2002. "Mental Health, Educational, and Social Role Outcomes of Adolescents With Depression." *Archives of General Psychiatry* 59 (3): 225–231. doi:10.1001/archpsyc.59.3.225.
- Forest School Association. 2018. *What is the Forest School Association?* Accessed September 17 2018. <https://www.forestschoollassociation.org/the-forest-school-association/>.
- Furnham, A. 1986. "Response Bias, Social Desirability and Dissimulation." *Personality and Individual Differences* 7 (3): 385–400. doi:10.1016/0191-8869(86)90014-0.
- Gehring, J. 2005. "Researchers say Girls Thrive in Single-sex gym Classes." *Education Week* 25 (1): 13.
- Harris, F. 2018. "Outdoor Learning Spaces: The Case of Forest School." *Area* 50 (2): 222–231. doi:10.1111/area.12360.
- Kraftl, P. 2018. "The Force of Habit: Channelling Young Bodies at Alternative Education Spaces." *Critical Studies in Education* 57 (1): 116–130. doi:10.1080/17508487.2016.1102753.
- Luthar, S. S., D. Cicchetti, and B. Becker. 2000. "The Construct of Resilience: A Critical Evaluation And Guidelines for Future Work." *Child Development* 71 (3): 543–562. doi:10.1111/1467-8624.00164.
- Mainella, F. P., J. R. Agate, and B. S. Clark. 2011. "Outdoor-Based Play and Reconnection to Nature: A Neglected Pathway to Positive Youth Development." *New Directions for Youth Development* 130: 89–104. doi:10.1002/yd.399.
- Maynard, T. 2008. "Encounters with Forest School and Foucault: A Risky Business?" *Education* 35 (4): 379–391. doi:10.1080/03004270701602640.
- McArdle, K., T. Harrison, and D. Harrison. 2013. "Does a Nurturing Approach That Uses an Outdoor Play Environment Build Resilience in Children From a Challenging Background?" *Journal of Adventure Education & Outdoor Learning* 13 (3): 238–254. doi:10.1080/14729679.2013.776862.
- McCree, M., and J. Cree. 2017. "Forest School: Core Principles in Changing Times." In *Children Learning Outside the Classroom From Birth to Eleven*, edited by Sue Waite, 222–232. Los Angeles: SAGE.
- McMillan, D. W. 1996. "Sense of Community." *Journal of Community Psychology* 24 (4): 315–325. doi:10.1002/(SICI)1520-6629(199610)24:4<315::AID-JCOP2>3.0.CO;2-T.
- Mitten, D. 1992. "Empowering Girls and Women in the Outdoors." *Journal of Physical Education* 63 (2): 56–60. doi:10.1080/07303084.1992.10604117.
- NHS Education for Scotland. 2018. *Child and Adolescent Mental Health Services (CAMHS)*. Accessed December 6 2018. [https://www.nes.scot.nhs.uk/education-and-training/by-discipline/psychology/multiprofessional-psychology/child-and-adolescent-mental-health-services-\(camhs\).aspx](https://www.nes.scot.nhs.uk/education-and-training/by-discipline/psychology/multiprofessional-psychology/child-and-adolescent-mental-health-services-(camhs).aspx).
- O'Brien, L. 2009. "Learning Outdoors: The Forest School Approach." *Education* 37 (1): 45–60. doi:10.1080/03004270802291798.
- O'Brien, L., and R. Murray. 2007. "Forest School and its Impacts on Young Children: Case Studies in Britain." *Urban Forestry and Urban Greening* 6 (4): 249–265. doi:10.1016/j.ufug.2007.03.006.
- Pimlott-Wilson, H., and J. Coates. 2019. "Rethinking Learning? Challenging and Accommodating Neoliberal Educational Agenda in the Integration of Forest School Into Mainstream Educational Settings." *The Geographical Journal* 185 (3): 268–278. doi:10.1111/geoj.12302.
- Rickinson, M., J. Dillon, K. Teamey, M. Morris, M.Y. Choi, D. Sanders, and P. Benefield. 2004. "A review of research on outdoor learning". National Foundation for Educational Research and King's College London.
- Ridgers, N. D., Z. R. Knowles, and J. Sayers. 2012. "Encouraging Play in the Natural Environment: A Child-Focused Case Study of Forest School." *Children's Geographies* 10 (1): 49–65. doi:10.1080/14733285.2011.638176.
- Roe, J., and P. Aspinall. 2011a. "The Restorative Benefits of Walking in Urban and Rural Settings in Adults with." *Health & Place* 17 (1): 103–113. doi:10.1016/j.healthplace.2010.09.003.
- Roe, J., and P. Aspinall. 2011b. "The Restorative Outcomes of Forest School and Conventional School in Young People with Good and Poor Behaviour." *Urban Forestry & Urban Greening* 10 (3): 205–212. doi:10.1016/j.ufug.2011.03.003.
- Russell, K., and H. L. Gillis. 2017. "The Adventure Therapy Experience Scale: The Psychometric Properties of a Scale to Measure the Unique Factors Moderating an Adventure Therapy Experience." *Journal of Experiential Education* 40 (2): 135–152. doi:10.1177/1053825917690541.
- Ryan, G. 2018. "Introduction to Positivism, Interpretivism and Critical Theory." *Nurse Researcher* 25 (4): 14–20. doi:10.7748/nr.2018.e1466.
- Scottish Government. 2011. *Scotland's Census: Maps and Charts*. Accessed September 15 2018. <http://www.scotlandscensus.gov.uk/ods-visualiser/#view=ethnicityChart&selectedWafers=0&selectedColumns=0,1,2,3,4,5,6&selectedRows=26>.
- Slade, M., C. Lowery, and K. Bland. 2013. "Evaluating the Impact of Forest Schools: A Collaboration Between a University and a Primary School." *Support for Learning* 28 (2): 66–72. doi:10.1111/1467-9604.12020.
- Tillmann, S., B. Button, S. E. Coen, and J. A. Gilliland. 2018. "Nature Makes People Happy, That's What it Sort of Means: Children's Definitions and Perceptions of Nature in Rural Northwestern Ontario." *Children's Geographies* 17 (6): 705–718. doi:10.1080/14733285.2018.1550572.
- Waite, S. 2017. *Children Learning Outside the Classroom: From Birth to Eleven*. Los Angeles: SAGE.
- Waite, S., O. Rutter, A. Fowle, and A. Edwards-Jones. 2015. "Diverse Aims, Challenges and Opportunities for Assessing Outdoor Learning: A Critical Examination of Three Cases From Practice." *International Journal of Primary, Elementary and Early Years Education*, 51–67. doi:10.1080/03004279.2015.1042987.

- Whittington, A., E. N. Mack, N. W. Budbill, and P. McKenney. 2011. "All-girls Adventure Programmes: What are the Benefits?" *Journal of Adventure Education and Outdoor Learning* 11 (1): 1–14. doi:10.1080/14729679.2010.505817.
- World Health Organization. 1946. *Constitution of WHO: Principles*. July 22. <http://www.who.int/about/mission/en/>.